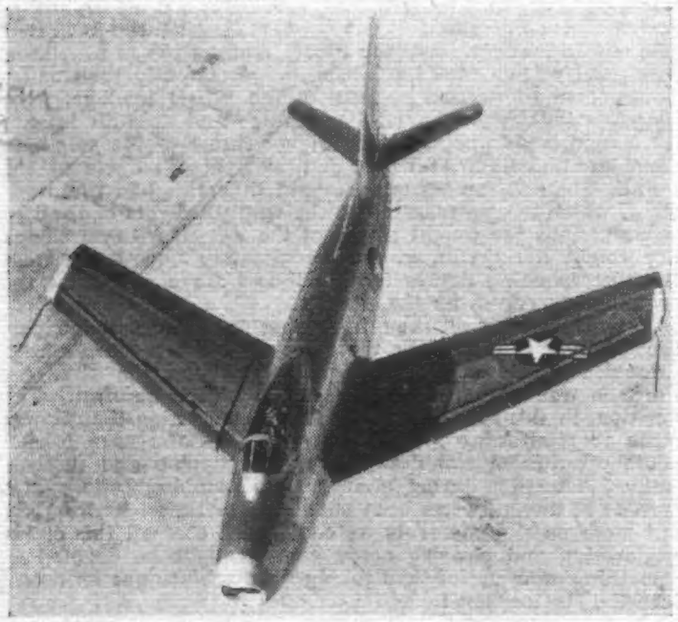
All Jet-Fighter Air Force . . . . .

the high torsional rigidity necessary with a thin wing section, the F-86A wing features a sandwich-type construction in which the structural material is laminated between inner and outer tapered skins; while the employment of long-span leading-edge slats bears witness to the acute control and stability aerodynamics of sweepback. There is indeed a certain parabolic touch of "bread upon the waters" in noting that after nearly three decades of invention, development and decay, wing slots are now being resurrected for lateral control on super-high speed aircraft. The U.S. Navy initiated this phase of full-scale high-speed control research with the Bell L-39 (an F-63 with sweptback wings) early in 1946 and the result is now being seen not only in the fighter class, but also in recent experimental bombers.

Local rumour on the Pacific coast has it that an experimental F-86A is now being groomed at Muroc with the new General Electric J-47 (TG-190) axial-flow turbo-jet delivering approximately 5,000 lb static thrust. Some reports even claim a thrust of 6,000 lb, which may be the "wet boost" rating for take-off or high-speed bursts. It will be recalled that the present world speed record of 650.6 m.p.h. is held by the straight-wing Navy Douglas D-558 Skystreak, powered with the 4,000 lb G. E.-Allison J-35. With some 5,000-6,000 lb thrust and a 35 degree swept-wing, the F-86A may be expected to cut a higher notch up the Mach scale and, possibly, recapture the speed ribbon for the Air Force. We say "possibly," in view of the Navy Douglas D-558-2 Skyrocket, which has now been flight-tested. The Skyrocket, of course, is rocket-boosted and, moreover, both it and its forerunner, the Skystreak, are pure research aircraft, whereas the F-86A has all the marks of a practical Service fighter.

After a long interval, Curtiss-Wright have re-entered the fighter lists with their XF-87, the first of which is now flying at Muroc. The company has received Air Force authorization for production tooling and an advanced production run of about 80, so it should not be long before this unusual aircraft drops its X-perimental prefix for the more productive F-87 label. It is described as a two-seater all-weather fighter and is powered with four Westinghouse J-34 (24-C) axial-flow turbo-jets, each turning out a thrust of approximately 3,000 lb for a dry weight of 1,200 lb and 27-inch diameter. The four power units are packaged in siamese pairs on each wing, the huge flat-sided, elongated nacelles looking like gigantic coffins against the thin plank-shaped wing. The horizontal tail is mounted high up on the vertical fin, similar to the Gloster Meteor.

Anything less like the usual day fighter specification it would be hard to conceive. Size and weight are in the night fighter or light bomber class, with a span of 60 ft, overall length of 65 ft, and a gross weight reported to be at least 30,000 lb. Even the landing gear has a bomber look about it, with both main and nose wheels arranged in duplex pairs. Top speed is stated to be in the 600 m.p.h. class, range over 1,500 miles, and ceiling over 35,000 ft. Apart from its potentialities as a night fighter, it would look as if this "all-weather" specification has been framed to meet the rigours of Arctic operations. With its two-man crew, air-conditioned cockpit, and radar detection equipment, the F-87 is probably intended as a polar air sentry, designed to feel out and intercept any aggressor who might be tempted to trespass on the wrong side of the North American boundary fence. The Americans, incidentally, are laying down an extensive chain of strategical airfields in Alaska.



THE SHAPE OF WINGS TO COME: The new North American F-86A jet-fighter now going into production for the U.S. Air Force. The long-span leading-edge slats and 35 deg backswept wing are indicative of high Mach Number aspirations. The engine is a General Electric (Allison) J-35 4,000 lb S.T. axial-flow turbo jet.

The Fighting Flea

Following close behind these four jet-fighters now in, or nearing, the production stage, is an impressive array of near-sonic contenders, including the McDonnell XF-85 and XF-88, Northrop XF-89, Lockheed XF-90, Republic XF-91, and Convair XF-92. Of these, only the XF-85 is under flight test at this time. This is the bug-like parasite or escort fighter, designed for built-in protection of such super-heavy bombers as the Convair B-36, the intention being to stow it in the bomb-bay of the latter and launch it should the bomber be intercepted—as it almost certainly will. It reminds us somewhat of the witty Dean Swift's famous Rhapsody on the Flea—each flea has a smaller flea to bite him! It is also reminiscent, of course, of much earlier British experiments along the same lines with rigid airships and escort aircraft.

Altogether, the XF-85 is a very odd-looking insect. This miniature jet-fighter has a backswept wing with a span of only 21 ft, coupled with a body length of 15 ft, and is powered with the Westinghouse J-34 (24-C) 3,000 lb thrust turbo-je aspirated directly from a nose duct. The outer panels of the wing fold upward and the only landing gear is a retractable hook let flush into the coaming ahead of the cockpit, by which it can be swung down from the bomb-bay, launched and hooked on again. It can also be fuelled and serviced on board the bomber, and can be jettisoned in case of emergency. The pilot sits atop the engine in a pressurized cockpit, looking very much like a jockey riding a barrel. Older still, however, is the quintuple tail surface configuration, probably necessary to stabilize the "tumbling" characteristics of the fat body. Top speed is claimed as high as 650 m.p.h.—which seems to be the popular high-water mark in American jet circles right now.

These straws in the west wind show the direction of American air policy and the beginning of an all-jet Air Force. We have chosen to look at the military side of the picture first, since Naval Aviation undoubtedly rates separate treatment—especially in view of recent squadron operational tests with jet-fighter (McDonnell Phantoms) on carriers, and the successful launching of patrol-bombers as big as the Lockheed P2V Neptune. And we shall have more to say on the subject of current and potential bomber development in our next article.

"FAVONIUS."

CRIPPS CONTROLLED APPROACH

IN order to assist the managements of producing and manufacturing companies throughout the country in the task of keeping their labour forces supplied with easily assimilated information concerning the economic recovery of the country as a whole, the Central Office of Information have produced the first issue of *Target* for the Economic Information Unit. A letter addressed to "the Managing Director" from Sir Stafford Cripps is printed on the first page of the publication. In this Sir Stafford reminds managements that men and women, whatever their rank or function, work to better effect when they clearly understand not only what they and their firms are doing but how these activities fit into the wider picture of national recovery as a whole. He goes on to point out that the Government cannot perform this service for them, but can, by pooling information and ideas in the publication *Target*, assist them in the promotion of policies of internal publicity.

An example of the system employed by Dunlop's to keep its workers supplied with interesting and up-to-date information is a simple illustrated chart showing, for instance, that one cycle tyre cover exported provides sufficient foreign currency to purchase 13 eggs, or 11 loaves, or 3½ lb of meat or 2 lb of butter. As a result of internal publicity efforts by Hoover (Electric Motors), Ltd., near Glasgow, in 5 weeks the 720 workers at this firm have increased their production of small electric motors by no less than 19 per cent. During the first week, in fact, of the information campaign production rose 14 per cent in spite of a serious breakdown which, incidentally, was overcome by a volunteer shift working day and night throughout one week-end.

Firms who consider that they have ideas for promoting the dispersal of information are encouraged to send them to the editor of *Target*. Contributions should be addressed to the Editor, *Target*, Central Office of Information, Norgeby House, Baker Street, London,